

Title (en)

Stress sensor for measuring mechanical stresses in a semiconductor chip and stress compensated Hall sensor

Title (de)

Stresssensor zur Erfassung mechanischer Spannungen in einem Halbleiterchip und stresskompensierter Hallsensor

Title (fr)

Capteur de contrainte destiné à l'enregistrement de tensions mécaniques dans une puce semi-conductrice et capteur Hall à équilibrage de contrainte

Publication

**EP 2490036 A1 20120822 (DE)**

Application

**EP 12153651 A 20120202**

Priority

- CH 2822011 A 20110218
- CH 20202011 A 20111221

Abstract (en)

The stress sensor (1) has four resistors (R1-R4) that are integrated in an active surface (3) of a semiconductor chip (2), to form a Wheatstone bridge. The resistors (R3,R4) connected in series, are connected in parallel with resistors (R1,R2) that are connected in series. The common modes (4,5) are set among the resistors. The resistors (R1,R4) are P-type resistors and the resistors (R2,R3) are N-type resistors. The resistors (R1,R4) are elongated with respect to the edge of the semiconductor chip. An independent claim is included for Hall sensor.

Abstract (de)

Ein Stresssensor (1) zur Erfassung mechanischer Spannungen in einem Halbleiterchip (2) weist eine durch vier integrierte Widerstände R 1 bis R 4 gebildete Wheatstone Brücke auf, wobei die Widerstände R 1 und R 4 p-Typ Widerstände und die Widerstände R 2 und R 3 n-Typ Widerstände sind.

IPC 8 full level

**G01R 33/00** (2006.01); **G01D 3/036** (2006.01); **G01L 1/22** (2006.01); **G01L 5/16** (2006.01); **H10N 52/00** (2023.01)

CPC (source: EP US)

**G01D 3/0365** (2013.01 - EP US); **G01L 1/2262** (2013.01 - EP US); **G01L 1/2281** (2013.01 - EP US); **G01L 1/2293** (2013.01 - EP US); **G01L 5/162** (2013.01 - EP US); **G01R 33/0082** (2013.01 - EP US)

Citation (applicant)

- WO 0118556 A1 20010315 - FRAUNHOFER GES FORSCHUNG [DE], et al
- EP 0548391 A1 19930630 - ITT IND GMBH DEUTSCHE [DE]
- DE 4302342 A1 19930729 - EL MOS ELEKTRONIK IN MOS TECHN [DE]
- DE 10154495 A1 20030522 - INFINEON TECHNOLOGIES AG [DE]
- DE 10154498 A1 20030522 - INFINEON TECHNOLOGIES AG [DE]
- DE 102004003853 A1 20050818 - INFINEON TECHNOLOGIES AG [DE]
- DE 102008051949 A1 20090507 - INFINEON TECHNOLOGIES AG [DE]

Citation (search report)

- [XAY] DE 102008051949 A1 20090507 - INFINEON TECHNOLOGIES AG [DE]
- [YA] DE 102006045141 B3 20080403 - INFINEON TECHNOLOGIES AG [DE]
- [XAY] US 2006043508 A1 20060302 - OHTA HIROYUKI [JP], et al

Cited by

CN113607043A; CN110657828A; CN106404007A; CN108780120A; US11119160B2; US11619688B2; US9952291B2; US10571531B2; DE102021206131A1; US11976987B2; DE102021206134A1; US11971316B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 2490036 A1 20120822**; **EP 2490036 B1 20130828**; JP 2012173287 A 20120910; JP 5915890 B2 20160511; US 2012210800 A1 20120823; US 9016135 B2 20150428

DOCDB simple family (application)

**EP 12153651 A 20120202**; JP 2012026648 A 20120209; US 201213397803 A 20120216